Maxie Dion Schmidt

Mailing Address:
251 Tenth Street NW, C101
Atlanta, GA 30318

Permanent Address:
4015 Landfall Drive
Pensacola, FL 32507

☎ *(636) 751-4916*

✉ maxieds@gmail.com

✉ mschmidt34@gatech.edu

September 26, 2021

University of Florida
1400 Stadium Rd
Department of Mathematics
Little Hall 358
Gainesville, FL 32611

Dear Professor Krishna Alladi,

I spoke to you on the phone this month about submitting my postdoctoral fellowship application materials to the faculty search committee at the University of Florida (UFL) should any positions go unfilled and funding become available this year. We corresponded twice this summer over the phone to discuss academic positions in the mathematics department after I graduate with my Ph.D. from the Georgia Institute of Technology in the Spring of 2022. My doctoral thesis committee is headed by Professors Michael Lacey and Josephine Yu with input from Matt Baker, Jayadev Athreya at the University of Washington, and Bruce Berndt at the University of Illinois at Urbana-Champaign. The basis for the work in my dissertation summarizes and extends work of mine published in the *Ramanujan Journal* and *Acta Arithmetica* that connects functions from multiplicative number theory with the theory of partitions. I feel that a position at UFL is a good fit for both myself and the established faculty working in number theory and partitions. It will also allow me to stay in state nearby my immediate family whom are very important to me and are instrumental to my success in graduate school. I am very grateful that you are able to review my application materials during this pandemic year.

My research combines number theory, combinatorics and software development. More broadly, I have interests in studying combinatorial and analytic number theory, in applied cryptography and embedded computer hardware, and in software engineering. My active peer-reviewed publication list is diverse with now over twenty-one entries, as is my public profile of open source software projects, each of which reflect the breadth and depth of my combined research areas. I am always open to exploring challenging and interesting new problems in mathematics and software engineering. I have been funded as a graduate research assistant for the last three years or so developing open source software in applied mathematical biology at GA Tech that has led to a recent publication in *Bioinformatics* in 2021. My recent work in analytic number theory characterizes the partial sums of the Möbius function by connections to strongly additive functions and the summatory functions of key unsigned sequences whose distributions are given

by an Erdős-Kac theorem type variant tending to non-central normal for large x. The manuscript is accepted this year for my second publication in the *Journal of Number Theory* since entering graduate school. In January of 2022, I am giving an invited talk at the special session in early career number theory at the AMS Joint Mathematical Meetings in Seattle about this work.

I spoke with Professor Frank Garvan on Zoom this summer and was able to engage with him about his research. I also recall having an engaging lunch discussion with Professor Alexander Berkovich at the George Andrews 80th Birthday Conference in 2018. I look forward to hearing more about math and academic positions at UFL. I am available for meetings over the phone and by video conferencing through my email addresses listed at the top of this letter. I have sent Professor Alladi application materials including a copy of my CV and a detailed combined research and teaching philosophy statement. I have provided the names of three reference writers that know me and my work well below. Please contact them individually over email to obtain copies of their letters to support my application. Thank you very much for taking the time to talk with me and for your encouragement this year.

Sincerely,

Maxie Dion Schmidt

Enclosure: *Curriculum Vitae; Research and Teaching Philosophy Statement*
Letters of Reference: *Bruce Reznick,* `reznick@illinois.edu`*; Jayadev Athreya,* `jathreya@uw.edu`*; Christine Heitsch,* `heitsch@math.gatech.edu`.